

MIOM/DRP/EC/COMP/ MoEF /2015-16/

Date: 28.05.2015

The Member Secretary,
State Environment Impact Assessment Authority
Ministry of Environment, Forests & Climate Change,
Government of India, Qr. No-5RF-2/1, Unit-IX
Bhubaneswar -751 022

**Sub: Environmental Clearance of Murgabeda Iron Ore Mining Project of Sri D.R. Patnaik. –
Regarding six monthly compliance reports for the period October, 2014 to March, 2015.**

Ref: SEIAA Clearance letter No. SEIAA/342, dated. 04.09.2010

Dear Sir,

We would like to inform you that, mining activity in Murgabeda Iron Ore Mine of Shri D.R. Patnaik has been stopped since dated 18th April, 2010 for want of forest clearance”, however, we are herewith submitting the six monthly EC compliance reports for the period October, 2014 to March, 2015 along with the comprehensive environmental monitoring data. (In both hard and soft copies along with e-mail)

This for your kind information, please

Yours sincerely

**For Murgabeda Iron Ore Mine,
Shri D.R. Patnaik**

Mines Manager

Encl. As above

**STATUS OF ENVIRONMENTAL CLEARANCE CONDITIONS – “MURGABEDA IRON
ORE MINE –PROJECT OF M/S. D. R. PATNAIK” LOCATED NEAR VILLAGE
MURGABEDA (THAKURANI R.F.) OF KEONJHAR DIST., ORISSA**

Copy to:

The Director (S),
Regional Office (EZ),
Ministry of Environment, Forests & Climate Change
A/3, Chandrasekharapur,
Bhubaneswar-751023

The Chairman,
State Pollution Control Board, Orissa
A/118, Nilakanthanagar, Unit – VIII,
Bhubaneswar – 751 012.

The Regional Director,
Central Ground Water Board,
Government of India,
South Eastern Region,
Bhubaneswar – 751 030.

The DIRECTOR (S),
Ministry of Environment, Forests & Climate Change
Government of India,
Paryavaran Bhavan,
C.G.O. Complex, Lodi Road,
New Delhi – 110 003.

The Chairman,
Central Pollution Control Board
Parivesh Bhawan, CBD-CUM Office Complex,
East Arjun Nagar,
Delhi – 110032.

**Six Monthly EC Compliance Reports
Of
Murgabeda Iron Ore Mine of
M/s. D. R. Patnaik
For the Period
October, 2014 to March, 2015**

**STATUS OF ENVIRONMENTAL CLEARANCE CONDITIONS – “MURGABEDA IRON
ORE MINE –PROJECT OF M/S. D. R. PATNAIK” LOCATED NEAR VILLAGE
MURGABEDA (THAKURANI R.F.) OF KEONJHAR DIST., ORISSA**

SPECIFIC CONDITIONS

- i. **The applicant (Project Proponent) will take necessary measures for prevention, control and mitigation of Air Pollution, water pollution, noise pollution and land pollution including solid waste management as mentioned by him in form-I, final EIA reports and Environment management Plan (EMP) in compliance with prescribed statutory norms and standards.**

Status of compliance

The mine is not in operation since dated 18th April 2010, for want of forest/statutory clearance. However the project proponent has recently obtained the Stage-I Forest Clearance Vide letter No.10 F (cons) 498/2011-17321/F & E dated 20.9.2014. Adequate measures have been taken by providing retaining wall along with garland drain all around the mines dump areas to prevent mines runoff water to the nearby water bodies. Other necessary measures have also been implemented like gully plugs at regular intervals etc. There are no such OB dumps, the sub grade dumps are stabilized at ear marked area with proper sloping and terracing, for better stabilization. The enclosed photos are witnessing the above. The photo copy of the same is enclosed as **photo-1 & 2**. Dump details are given in **Table – 01 & 02**.

Table :- 1 Sub-Grade Dump Details			
Sl. No.	Location	Area In Ha.	Material
1	Dump-1 (Near South eastern side of the lease)	0.733	Sub grade ore
2	Dump – 2 (Near pillar no.7)	0.037	Sub grade ore
3	Dump – 3 (On pit benches)	0.235	Sub grade ore

Table:- 2 Retaining Wall Details				
Sl. No.	Location	Length	Width	Height
1	Dump – 1 (Near out gate, Nalla side)	58	1.2	2
2	Dump – 3 (Near pillar no.14 to 16)	209	1.2	1.3

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Photo 1 – Retaining Wall constructed at the base of sub-grade dump



Photo – 2 – Showing dump stabilization with plantation & provision of retaining wall

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- ii. **The applicant will take necessary steps for socio economic development of the people of the area on need based assessment for providing employment, education, health care, drinking water and sanitation, road and communication facilities. After a detailed primary Socio-Economic survey in core zone and buffer.**

Status of compliance

Different projects has undertaken in consultation with “JANASADHANA” for the socio-economic development of the local people belongs to adjoining villages. A detailed implementation status report of the same is enclosed as below.

Socio-Economic Development Activities

Infrastructure

- Provided materials for Street Light Connections in nearby villages.
- Repairing and black topping of Village Road connecting Road from Deojhar to Murgabeda. Repairing of interior village roads

Education

- The school at village Murgabeda got improved by providing the teaching facility with the appointment of teachers. Renovation of school building & compound wall.
- Additional teachers have been posted in the adjoining villages.
- Distribution of Uniforms, Books, slates, pencil, etc to the school students.
- Mid day meal is being provided at free of cost for class 9th & 10th at Deojhar High School.
- Facilitating the Independence & Republic Day functions at adjoining schools by funding the entire celebration by extending various tournaments among school children.

Health

- Health-Check-up camp covering adjoining villages and free supply of medicines.
- Extending the Dispensary along with the ambulance facility to local villages with the availability Doctor& Staff and free medicine.

Drinking Water Facility & Sanitation

- 2 No's of deep bore wells got provided at village.
- Regular & periodical supply of drinking water to the adjoining villages with the water tankers.

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Other peripheral activities

- Murga Mahadev Temple renovation work (Bathing area has been tiled & guard bars, Cloth changing room, Glazed tiled Bench, etc) already completed
- Regular maintenance of temple housekeeping, etc.
- Guard wall at the bank of Mahadev –nalla towards its protection.

Employment Opportunities

- Locals from adjoining villages are engaged in various activities of mines.
- Besides the above Temple maintenance staff comprises 3.No. of Lady Employees are from Local villages.
- Posting of additional teachers in schools from locality.
- Development of self-help groups for villagers is under planning.

The project proponent has assigned the work of **Socio economic survey** to **JANASADHANA**, a registered non-govt. organization who is involved in such type of studies. Expense details are given in the **Table no. – 03**

Table 3 :- CSR Expense Details			
Sl. No	Description	Expense (in Lakhs) 2013-2014	Expense (in Lakhs) 2014-15
1	Infrastructure	1.33	0
2	Education	2.92	1.9
3	Health	4.10	3.2
4	Drinking Water Facility	1.96	1.5
5	Social welfare	2.00	1.2
6	Employment	37.78	28.86
7	Total	50.09	36.66

- iii. The applicant will comply with the points, concerns and issues raised by the people during public hearing on 29th June, 2009 in accordance with the commitments made by him thereon.

Status of compliance

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We have full-filled the commitment regarding the demands raised during the public hearing and compliance are made as per the commitments. All the public hearing issues has been complied as per the commitment in phased manner like development of peripheral activities *i.e.* Development/renovation of the Murgamahadev temple, guard wall all along nallah, established environment cell, education, drinking water, road, street light, livelihood etc.

- iv. **The applicant will take statutory clearance/approval/permissions from the concerned authorities in respect of his project as and when required.**

Status of compliance

Necessary statutory clearances / approval / permissions from the concerned authorities have been achieved say for; Consent to operate from SPCB, Ground Water permission from CGWA, Hazardous waste authorization, approved mining plan from IBM, etc.

- v. **For post environmental clearance monitoring, the applicant will submit half-yearly compliance report in respect of the stipulated terms and conditions of this Environmental Clearance to the State Environmental Impact Assessment Authority (SEIAA), Orissa on 1st June and 1st December of each calendar year.**

Status of compliance

The half yearly compliance report is being submitted herewith for the same *.i.e.* for the period October, 2014 to March, 2015. Earlier submitted details as given in **Table no. - 04**

Table No. – 04 EC Compliance submission dates		
Sl. No.	Period	Date of Submission
1	Apr, 2014 to Sep, 2015	22.11.2014
2	October 2013 to March 2014	25.05.2014
3	April 2013 to September 2013	25.11.2013
4	October 2012 to March 2013	25.05.2013
5	April 2012 to September 2012	25.11.2012

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- vi. The core zone should be monitored intensively with no. of stations as prescribed by CPCB, Delhi and unit of pollutant level should be expressed as NAAQ of CPCB, Delhi. The detail methodology adopted for analysis of samples shall be clearly indicated.

Status of compliance

The monitoring of AAQ is being carried out in the core as well as buffer zone of the ML area. Monitoring of AAQ is carried out every month except during monsoon. The monitoring report for reveals that the parameter like PM₁₀, PM_{2.5}, SO₂ and NO_x are well within the norm as per NAAQs notifications made by the CPCB. The monitoring location given in the **Table no. 05**

Table no. – 05 - Details of Ambient Air Quality Monitoring Stations		
Identification/ Abbreviation of air Quality Sampling Stations.		
Station No.	Identification	Location
1	A1	Mines-site-office
2	A2	Village- Murgabeda
3	A3	Village - Boneikela
4	A4	Village - Bhadrasahi

- vii. The proponent shall submit ground tooting baseline data on flora & fauna and CSR activities already carried out within three months to the SEIAA.

Status of compliance

The site specific Wild Life Conservation Plan has been prepared by Mr. P.K. Sarangi, Rtd. IFS Officer & got approved by PCCF (Wildlife), Chief Wildlife Warden, Odisha. The project has estimated cost of Rs. 38.70 Lakhs which includes cost for both buffer zone i.e. Rs. 25.40 Lakhs and core zone i.e. Rs. 13.30 Lakhs for the conservation and management of wildlife. The project proponent has constructed check dam & check weirs to restrict the mixing of undesired substances in nearby streams & also established guard wall along the sides of nallahs. The copy of the same is attached as **Annexure – 05**. A detailed CSR activity on the same got submitted.

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- viii. Adequate buffer zone shall be maintained between two consecutive mineral bearing deposits.**

Status of compliance

There is only one mines pit located in the mines area and the project has maintained the 7.5 m width of safety zone around the ML area and following as per the approved mining plan/scheme.

- ix. Zero waste mining concept shall be implemented either by putting up pelletisation plant or disposal of low grade ores/fines to prospective buyers.**

Status of compliance

Due to the incorporation of better & efficient machineries and latest technologies, it is ensured that zero wastes will be coming out due to the mining activity. Steps have been initiated to work out in this context.

- x. The following shall be implemented viz. (a) dump run off should be diverted into setting ponds until it is clear (b) adequate rain water harvesting and ground water recharging facilities should be developed in the core zone, (c) attempt should be made to achieve zero water balance.**

Status of compliance

- a- Dump run off are being diverted to mines pit area and balance quantity is channelized to settling pits with proper checks before disposal to natural water bodies.
- b- The project has implemented the roof top rain water harvesting structures and settling pits cum harvesting structures in the mines areas towards recharge of the ground water.
- c- Steps have been taken to achieve zero water balance like implementation STP for treatment of domestic effluent and reuse of the treated water for mines dust suppression and nearby gardening purposes.

The photo of the same is enclosed as **Photo 3 & 4**

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Photo – 3 – Photo showing the provision of guard wall all along the Nallahs



Photo no. 4 – Roof Top Rain water Harvesting Structure

- xi. Maintenance of roads through which transportation of ores are undertaken shall be carried by the project regularly at its own cost.**

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Status of compliance

The project has black topped the transportation approach village roads along with the other projects and regular maintenance of the main approach road along with the mines haul roads are being carried out. **Photo no. - 05.**



Photo 05 – Showing Black Top Road Transportation for mineral dispatch

- xii. **Fugitive dust generation shall be controlled. Fugitive dust emission shall be regularly monitored at locations of nearest human habitation (including schools and other public amenities located nearest to sources of dust generation as applicable) and records shall be submitted to the SEIAA. Orissa.**

Status of compliance

As the project is not operation, there is no fugitive dust emission monitoring. Monitoring of AAQ is being carried out in different locations of nearest human habitation in consultation with SPCB except during monsoon. The monitoring report analysis data parameters are well within the norms made by the SPCB/CPCB.

- xiii. **Transportation of ore shall be done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore /dust takes place.**

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Status of compliance

The project has taken steps towards public roads to ensure that the trucks should not be overloaded during transportation; besides these trucks will be covered with tarpaulins while transportation of the iron ore. Time to time awareness program will be carried out for the operators/drivers etc. towards the same.

- xiv. Rain water harvesting shall be undertaken to recharge the ground water source.**

Status of compliance

In this regard KRG Rain Water foundation, Chennai got engaged in consultation with Regional Director, CGWB, and Bhubaneswar and roof top rain water harvesting structures got implemented towards augmentation of ground water in the camp area. The photo of the same is enclosed above as above **photo no. – 03 & 04.**

- xv. Monitoring of ground and surface water quality shall be regularly conducted and records should be maintained and data shall be submitted regularly to SEIAA, Orissa.**

Status of compliance

Monitoring of the ground water quality at 3 locations namely, Bileipada village, Mahadev nasa village, Deojhar village, Daldir & Murgabeda are carried out. Monitoring of the surface water quality is also being carried out for surface water bodies i.e. Baitarini River, Suna River, Mahadev Nallah. The records are also maintained. The registers are being maintained for monitoring parameters. The monitoring data covers a total of 46 parameters (9 Physical, 36 Chemicals and 1 bacteriological) and results are very well within the norms. The data is being maintained and submitted to authorities regularly. The results are very well within the norms.

- xvi. The proponent shall ensure that no silt originating due to mining activity is transported in the surface water course. Measures for prevention and control of soil erosion and management of silt shall be undertaken. Protection of dumps against erosion shall be carried out with geo-textile matting or other suitable material, and thick plantations of native trees and shrubs shall be carried out at the dump slopes. Dumps shall be protected by retaining walls.**

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Status of compliance

The project has provided necessary precautionary measures like siltation pit towards protection of silt carry over into the nearby surface water bodies followed by retaining walls and garland drains at the toe of the dumps. Apart from that interference like guard wall all across the bank of the nallah, a length of 267 M and check weirs at the strategic locations are provided. The above measures have been taken up to reduce flow of sediments to the 1st order stream such as Mugamahadev nallah and 2nd order streams such as Baitarini River and also other water bodies present in the buffer area. It has been taken based on the rain fall data of past 50 years from the IMD station i.e. Keonjhar and all the sump capacity have been designed by giving 50 % safety margin. The photos regarding the same have been enclosed as **photo – 6.**



Photo no. 06 – Photo showing the settling pond and check dam

- xvii. **Trenches / garland drains shall be constructed at foot of dumps to arrest silt from being carried to water bodies. Adequate number of check dams shall be constructed across seasonal or perennial Nallahs (if any) flowing through the ML area be arrested. De-silting at regular intervals shall be carried out.**

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Status of compliance

We ensure that there should not be any silt materials mixed in nearby nallah and all. To arrest silt from mines run off, a no. of catch drains and settling cum percolation pits have been constructed around the mines working areas. Nallah protection guard walls have also been constructed across the length of the nallah. Time to time de-silting is followed before each monsoon. The photo of the same is attached as **photo 06 (above) & 07.**



Photo 07 – Check weirs near bank of Nallah

- xviii. **Provisions shall be made for the housing the labours within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. the housing may be in the form of temporary structures to be removed after the completion of the project.**

Status of compliance

There is no such construction activity inside the project area. They are being engaged from the adjoining villages. However, we have provided the site specific STP for treatment of domestic effluents and the treated water is being utilized for adjoining plantation & gardening purposes.

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- xix. **Occupational health and safety measures for the workers including identification of work related health hazards, training on malaria eradication, HIV, and health effects on exposure to mineral dust etc. shall be carried out. The proponent shall engage a full time qualified doctor who is trained in occupational health. Periodic monitoring for exposure to respirable mineral dust on the workers shall be conducted and records maintained including health records of the workers. Awareness program for workers on impact of mining on their health and precautionary measures like use of personal equipments etc. shall be carried out periodically. Review of impact of various health measures undertaken (at interval of five years or less) shall be conducted followed by follow up action wherever required. Occupational Health centre shall be established near the mine site itself.**

Status of compliance

Initial Medical Examination & Periodical Medical Examination of the workers engaged in the project is being undertaken periodically for permanent and outsider employees along with the pre-medical examination of persons employed, who are engaged in the process of mining & are likely exposed to dust to observe any contractions due to exposure to dust. This is being carried as per in compliance to Mines Act 1952 & rules 1956 and amendments there to. The various tests include PFT, X-Ray, and lung spirometry etc. Workers are provided with protective respiratory devices & time to time training on safety & health aspects is being provided. A full time qualified Occupational health doctor with provision of Occupational Health centre has been provided near the mines area.

- xx. **Shelter belt that is wind break of 15 m width and consisting of at least five tiers around the lease facing the human habitation, school/agricultural fields etc. (if any in the vicinity) in the safety zone/backfilled and reclaimed areas, around voids and roads shall be raised. Green belt development and selection of plant species shall be as per CPCB guidelines. Density of the trees has to be around 2500 plants per hectare, herbs and shrubs shall also form a part of afforestation program besides tree plantation. Help and guidance of local DFO may be sought in the matter. Details of year wise afforestation program including rehabilitation of mined out area shall be submitted to the SEIAA, Orissa within six months.**

Status of compliance

There is no such human habitation/schools etc. within the ML area. However, the project has covered all the sub-grade dumps with application of mixed grass seeds along the slopes to stabilize and also to reduce wash off in case of rains during monsoon.

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A safety zone of 7.5 m width around the ML boundary is being maintained. In this regard, the project has covered the dumps with application of mixed grass seeds along the slopes to stabilize and also to reduce wash off in case of rains during monsoon.

The project has done 18000 numbers of saplings in and around the ML area till the reporting period 2014-15 in safety zone, & peripheral area of ML. Copy of the same is attached as **photo no. 08 & 09**



Photo no. - 08 – Safety Zone Plantation



Photo - 09 – Safety Zone Plantation

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- xxi. This environmental clearance is subjected to forest clearance under the Forest (Conservation) Act, 1980.**

Status of compliance

The lessee had applied for forest clearance over an area of 13.904 ha forest land including 1.214 Ha of safety zone for mining & its allied activities during 1st RML period under Forest Conservation Act 1980, for which it has got Stage-I Forest Clearance Vide letter No.10F (cons) 498/ 2011-17321/F & E on dated. 20.9.2014. Copy of the same is enclosed as **Annexure – 06.**

- xxii. The mining operation shall be restricted to above ground water table and it should not intersect the groundwater table.**

Status of compliance

As such mining activity does not intersect ground water table of the area. The Ultimate working depth is 530 AMSL which is far above the ground water level and ground water level exists 510 a MSL. Therefore intersection of ground water table of the ML area will not occur.

- xxiii. The top soil shall temporarily be stored at earmarked site (s) only and it should not be kept unutilized for long (not more than 3 years). The topsoil shall be used for land reclamation and plantation.**

Status of compliance

There is no generation of the top soil during mining operations. In case of top soil generation generated in future, it will be stored in an earmarked area and necessary precaution will be taken to preserve its nutrient values so that it will be used for land reclamation and raising plantations.

- xxiv. The over burden (OB) generated during the mining operation shall be stacked at earmarked dump site(s) only and it should not be kept active for a long period of time and its phase-wise stabilization shall be carried out. Proper terracing of OB dump shall be carried out so that the overall slope shall not exceed 28⁰. Back filling shall be done as per approved mining plan. Back filling to start from 3rd year onwards of the mining operation and the entire quantity of waste shall be back-filled and liquidated within five years. There shall be no external OB dumps after the 6th year of the mining operations**

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the backfilled area shall be afforested. Back-filling has to be done in a manner that it is restored to the normal ground level. Monitoring and management of rehabilitated areas should continue till the vegetation is established and becomes self generating compliance status to be reported to the appropriate authorities.

Status of compliance

There is one sub-grade dump which has grade value more than 45 % of Fe *i.e.* marketable grade. The sub-grades are stacked in an identified area inside ML area by maintaining with proper slope. Dump is also developed with garland drain and retaining wall at the base. Plantation of native species of different varieties of plants of 18000 species has been planted over waste dumps, safety zone & peripheral area of ML till 2014-15. Proper care and survival of vegetation is being carried.

As per back filling, monitoring and management of rehabilitated area is concerned, we will abide by the conditions as per the approved mining scheme and progressive mine closer plan

Monitoring and management of rehabilitated areas will be continued until vegetation becomes self-sustaining.

- xxv. The funds earmarked for the environment protection measures shall be judiciously utilized. Under no circumstances this funds shall be diverted for other purposes. Year wise expenditure for these funds should be reported to the SEIAA, Orissa.**

Status of compliance

The funds earmarked for environmental protection are being utilized for the same.

- xxvi. The critical parameters such as SPM, RSPM, NO_x in the ambient air within the impact zone, peak particle velocity at 300 m distance or within the nearest habitation, whichever is closure shall be monitored periodically. Further, quality of discharged water shall also be monitored [TDS, DO, pH and total suspended solids (TSS)]. The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the company in public domain. The circular no. J 20012/1/2006-1A.II (M) dated 27.05.2009 issued by Ministry of Environment and forest, which is available on the website of the Ministry www.envfor.nic.in shall also be refereed in this regard for its compliance.**

Status of compliance

All the critical parameters are being monitored like AAQ, Water Quality etc. and the data of the same is being displayed on a display board.

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- xxvii. A final mine closer plan along with details of Corpus Fund shall be submitted to the SEIAA 5 years in advance of final mine closure for approval.**

Status of compliance

The Project has submitted a Bank guarantee of Rs. 3,84,450 /- (Three lakhs eighty four thousand four hundred fifty rupees only) for rehabilitation as a part of the management of the mines closure of the Project. It has been approved by IBM in the scheme of mining on 07.04.2011

A final mine closer plan along with detailed corpus fund will be submitted to the ministry of Environment & Forest 5 years in advance of final mine closure for approval.

- xxviii. The project proponent shall obtained necessary prior permission of the competent authorities for drawl of requisite quantity of water (Surface water and ground water) required for the project.**

Status of compliance

The project proponent has already obtained NOC for withdrawal of ground water from Central Ground Water Authority; Copy of the same is attached as **Annexure – 02.**

- xxix. The above mentioned stipulated conditions shall be complied in time bound manner. Failure to comply with any of the conditions mentioned above may result in withdrawal of this environmental clearance and attract action under the provisions of Environmental Protection (EP) Act, 1986.**

Status of compliance

We are abiding by the said conditions. We are submitting six monthly EC compliance reports once in a six month as per the schedule. The details have been given by **table 4.**